

APPLICANT(S): MYSZNE, Jorge
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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. **(Original)** A data scrambler comprising:

a table adapted to store scrambling values of an m-sequence, said table formed into at least two overlapping swaths of N columns, wherein each swath stores said m-sequence and said m-sequence of one swath is shifted from said m-sequence of a second swath; and

a selector adapted to read a current swath N bits at a time for use in scrambling N bits of input data in parallel and to shift to the next swath.

2. **(Original)** A data scrambler according to claim 1 wherein a row R stores values of said m-sequence beginning with the $(R-1)N+1$ th value of said m-sequence.

3. **(Original)** A data scrambler according to claim 2 wherein N is eight and said m-sequence is 127 bits long.

4. **(Original)** A data scrambler according to claim 3 wherein said table has at least 16 rows and at least 15 columns.

5. **(Original)** A data scrambler according to claim 4 wherein said selector comprises:

a first counter adapted to count a first value modulo 16 and to generate an address from said value for said table;

a second counter adapted to count second value modulo 7 whenever said first value reaches 16; and

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a multiplexer adapted to select eight bits of a row of said table indicated by said address starting at the column having said second value.

6. **(Original)** A data scrambler according to claim 1 wherein the length S of m -sequence is $2^B - 1$, the number NR of rows of said table is $\text{round}(S/N) + 1$, the number NE of extra bits is $N - (S - (NR - 1) * N)$ and the number NC of columns of said table is $(NE + 1)N - 1$.

7. **(Original)** A data scrambler comprising:

a table having rows and columns adapted to store scrambling values of an m -sequence, wherein a row R has more than N storage elements and stores values of said m -sequence beginning with the $(R - 1)N + 1$ th value of said m -sequence; and

a selector adapted to select N consecutive bits of said m -sequence at a time from said table for use in scrambling N bits of input data.

8. **(Original)** A data scrambler according to claim 7 wherein N is eight and said m -sequence is 127 bits long.

9. **(Original)** A data scrambler according to claim 8 wherein said table has at least 16 rows and at least 15 columns.

10. **(Original)** A data scrambler according to claim 9 wherein said selector comprises:

a first counter adapted to count a first value modulo 16 and to generate an address from said first value for said table;

a second counter adapted to count second value modulo 7 whenever said first value reaches 16; and

a multiplexer adapted to select eight bits of a row of said table indicated by said address starting at the column having said second value.

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11. **(Original)** A data scrambler according to claim 7 wherein the length S of m -sequence is $2^B - 1$, the number NR of rows of said table is $\text{round}(S/N) + 1$, the number NE of extra bits is $N - (S - (NR - 1) * N)$ and the number NC of columns of said table is $(NE + 1)N - 1$.

12-15. **(Canceled)**.

16. **(Original)** A method comprising:

storing scrambling values of an m -sequence in a table, said table formed into at least two overlapping swaths of N columns, wherein each swath stores said m -sequence and said m -sequence of one swath is shifted from said m -sequence of a second swath;

reading a current swath N bits at a time;

scrambling N bits of input data in parallel using said N bits of said current swath;

and

when said swath is finished, shifting to another swath NE bits from the current swath.

17. **(Original)** A method according to claim 16 wherein the length S of m -sequence is $2^B - 1$, the number NR of rows of said table is $\text{round}(S/N) + 1$, the number NE of extra bits is $N - (S - (NR - 1) * N)$ and the number NC of columns of said table is $(NE + 1)N - 1$.

18. **(Original)** A method according to claim 17 and wherein said reading comprises:

counting a first value modulo NR ;

generating an address from said first value for said table;

counting a second value modulo $N - 1$ whenever said first value reaches NR ; and

selecting N bits of a row of said table indicated by said address starting at the column having said second value.